

Notice of Allowability

Application No.

10/802,930

Examiner

Brian R. Peugh

Applicant(s)

KAWAMOTO, TAKUJI

Art Unit

2187

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the filing of 9/20/06.
2. ☒ The allowed claim(s) is/are 1-5 and 7-33.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____ |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: The prior art teaches related writing systems but fails to teach the combination including the limitation of:

(Claim 1): "a control section in which, if there is a consecutive-writing demand from the arithmetic unit for writing of data into consecutive addresses of the main memory unit and if a cache miss takes place in an object data area which is the data area that corresponds to an address outputted by the arithmetic unit, then the object data area is opened, and thereafter, if an object small area which is the small area that corresponds to the address outputted by the arithmetic unit in the object data area is adjacent to a data area boundary which is the boundary of the object data area located in the direction where the consecutive writing is earlier executed with respect to the order of addresses, then refill of data is not executed into the object data area from the main memory unit"

(Claim 12): "a control section in which, if there is a consecutive read-out demand from the arithmetic unit for the read-out of data from consecutive addresses of the main memory unit, then data is read out to the arithmetic unit from an object small area which is the small area that corresponds to the address outputted by the arithmetic unit in an object data area which is the data area that corresponds to the address outputted by the arithmetic unit, and beside~, if the object small area is adjacent to a data area boundary which is the boundary of the object data area located in the direction where the consecutive read-out is later executed with respect to the order of addresses, a setting is executed for inhibiting data from being written back to the main memory unit from the object data area when the object data area is opened, and if the object small area is not adjacent to the data area boundary, then the setting is not executed";

(Claim 17): "a control section which, during the period when consecutive writing is executed which is writing of data into consecutive addresses of the main memory unit from the arithmetic unit and during the period when a data bus for transferring data between the data holding section and the main memory unit is not in operation, writes the data back to the main memory unit from the data area in the data holding section which is located in the direction where the consecutive writing is earlier executed than the consecutive writing that is presently executed with respect to the order of addresses";

(Claim 22): "a control section which, during the period when consecutive read-out is executed which is read-out of data from consecutive addresses of the main memory unit to the arithmetic unit and during the period when a data bus for transferring data between the data holding section and the main memory unit is not in operation, writes the data back to the main memory unit from the data area in the data holding section which is located in the direction where the consecutive writing is earlier executed than the consecutive writing that is presently executed with respect to the order of addresses";

(Claim 27): "a control section which, during the period when consecutive read-out is executed which is read-out of data from consecutive addresses of the main memory unit to the arithmetic unit and during the period when a data bus for transferring data between the data holding section and the main memory unit is not in operation, refills data from the main memory unit into the data area in the data holding section which is located in the direction where the consecutive read-out is later executed than the consecutive read-out that is presently executed with respect to the order of addresses";

(Claim 33): "a control section in which, if there is a consecutive-writing demand from

the arithmetic unit for writing of data into consecutive addresses of the main memory unit and if a cache miss takes place in an object data area which is the data area that corresponds to an address outputted by the arithmetic unit, then the object data area is opened, and thereafter, if an object small area which is the small area that corresponds to the address outputted by the arithmetic unit in the object data area is adjacent to a data area boundary which is the boundary of the object data area located in the direction where the consecutive writing is earlier executed with respect to the order of addresses, then refill of data is not executed into the object data area from the main memory unit, and the data outputted by the arithmetic unit is written into the object small area, and if the object small area is not adjacent to the data area boundary, then refill of data is executed into the object data area from the main memory unit, and the data outputted by the arithmetic unit is written into the object small area".

Claims 2-5, 8-11, 13-16, 18-21, 23-26 and 28-32 are allowed as being dependent upon, and thus incorporating therein, the allowable subject matter of the respective parent claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Peugh whose telephone number is (571) 272-

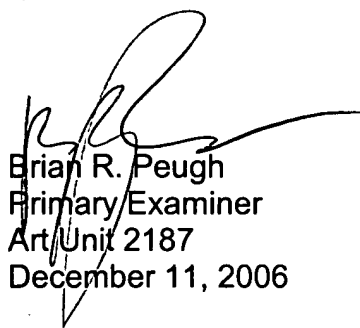
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4199. The examiner can normally be reached on Monday-Thursday from 7:00am to 4:30pm. The examiner can also be reached on alternate Friday's from 7:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks, can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Brian R. Peugh
Primary Examiner
Art/Unit 2187
December 11, 2006